

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/050011

International filing date (day/month/year)
16.09.2004

Priority date (day/month/year)
16.09.2003

International Patent Classification (IPC) or both national classification and IPC
H01F27/28, H01F17/00, H01F19/04

Applicant
SOUTH BANK UNIVERSITY ENTERPRISES LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

10/572407
IAP9 Rec'd PCT/PTO 16 MAR 2006
International application No.
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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-23
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-23
Industrial applicability (IA)	Yes: Claims	1-23
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial
applicability; citations and explanations supporting such statement**

Reference is made to the following document:

D1: US-A-5477204

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of independent **claim 13** is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document): a line interface transformer (see column 1, lines 11-28) having a primary circuit for coupling to a transmission line and a secondary circuit for outputting a signal transmitted over the transmission line (see from column 2, line 52 to column 3, line 11 and from column 3, line 64 to column 4, line 4), each circuit being formed of a continuously electrically conductive material (see column 2, lines 60-62) and in which the primary circuit and the secondary circuit are parallel and in the same plane (see column 2, lines 19-21 and lines 52-56).

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of independent **claims 14, 15 and 16** does not involve an inventive step in the sense of Article 33(3) PCT.
 - 2.1 Since the line interface transformer mentioned in method **claims 14 and 15** is not new and the remaining method steps, which are considered to be among the customary practice followed by the skilled person, claimed therein do not involve an inventive step, claims 14 and 15 are rendered as not inventive.
 - 2.2 Document D1 discloses, according to the features of **claim 16** insofar they can be understood, a coreless transformer comprising; a primary circuit and a secondary circuit having a number of turns and having alternating primary and secondary conductors adjacent one another (see from column 2, line 52 to column 3, line 11 and from column 3, line 64 to column 4, line 4). The remaining features are either unclear (see section VIII) or non inventive in the light of the documents in the International Search Report or well within the knowledge of the skilled person. Claim 16 thus does not involve an inventive step.

3. Dependent claims 1 to 12 and 17 to 23 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, see document cited in the International Search Report and the corresponding passages.

As a further remark, claim 1 comprises all the features of claim 13 as is thus regarded as being a claim dependent thereon. Considering the additional feature of claim 1 wherein the line interface transformer is comprised within a digital subscriber line modem, this feature is regarded as not involving an inventive step. When faced with the technical problem of how to reduce the dimensions of a DSL modem, the skilled person would without involving an inventive step incorporate the transformer of D1, designed for a small footprint and good electromagnetic properties, into a DSL modem reaching thus to the subject-matter of claim 1.

Re Item VIII

1. The application does not meet the requirements of Article 6 PCT, because claims 1, 2, 7, 13, 14, 15 and 16 are not clear.
 - 1.1 Although claims 1, 13, 14, 15 and 16 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
 - 1.2 The term "substantially" used in claims 1, 2 and 7 and the expression "For use in a DSL modem" is vague and unclear and leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claims unclear, Article 6 PCT.
 - 1.4 Claim 16 does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. By referring to "there being a combination of said number of turns and a number of layers sufficient to obtain a transformer action for passing said digital data signal from said primary circuit to said secondary product" the claim attempt to define the subject-matter in terms of the result to be

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achieved, which merely amounts to a statement of the underlying problem, without providing the technical features necessary for achieving this result.